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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,468	03/23/2007	Jan Hall	NOBELB.245NP	4924

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EXAMINER	
MAI, HAO D	

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
11/19/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/582,468	HALL, JAN	
	Examiner	Art Unit	
	HAO D. MAI	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-20* is/are pending in the application.

4a) Of the above claim(s) *11-13 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-10, 14-16, 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims 11-13, 17, currently withdrawn as directed to an invention nonelected without traverse in the reply filed on 08/24/2009. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 3-6, 9-10, and 14-15, are rejected under 35 U.S.C. 102(b) as anticipated by Blanquaert (4,261,063).**

Regarding claim 1, Blanquaert discloses a dental component, i.e. titanium bone prosthetic pin 1, capable of extending at least partially in a hole formed in the jaw bone and through soft tissue belonging to the jaw bone (Figs. 1-3). The dental component 1 including the lattice mesh layers 6A, 6B, are of titanium, and further comprise at least one layer of surface coating of anatase-phase titanium dioxide, which is applied thereon by anodic oxidation at 20 - 200 volts (Figs. 1-2; column 1 lines 51-53; column 2 lines 8-12). Blanquaert discloses subjecting the whole assembly to anodic oxidation at 20 – 200 volts in order to obtain a coating or surface layer of anatase-phase titanium dioxide (column 2 lines 44-53). Therefore, it is inherently that 70%-100% of the surface layer is in anatase-phase titanium dioxide.

As to claim 3, Blanquaert discloses the surface layer of anatase being 3000 to 3500 angstroms (column 2 lines 52-53), which is converted to be 0.30 - 0.35 μm. Such range is within the claimed range of 0.05 - 10 μm. **As to claims 4-5, 10, and 14-15**, Blanquaert discloses covering about 2/3 (i.e. portions 9, 11, 14, 16) of the titanium bone prosthetic pin 1 with the titanium wire 6A, 6B; whereas the head portions 9B and 10 are uncovered. Blanquaert then discloses subjecting the whole assembly to anodic oxidation; therefore the whole component is coated with anatase-phase titanium dioxide. Accordingly, such coating means a majority of and/or a plurality of the outer surfaces of the dental component are provided with crystalline titanium dioxide in the anatase phase. **As to claims 6 and 9**, there are multiple threadless portions of pin 1 that are capable of being placed against soft tissue.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 7-8, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blanquaert in view of Sachdeva et al. (5,697,779).**

Regarding claim 8 and 19, Blanquaert fails to disclose an outer threaded portion. Instead, Blanquaert discloses scaly structure 14. Nonetheless, it is well known in the in the medical or dental bone prosthesis/implant field to include a threaded portion to tap and anchor into the bone. For example, Sachdeva et al. disclose a dental implant 10 having a threaded body 12 in order to anchor into the jawbone 28 (Fig. 1, column 5 lines 20-32). It would have

been obvious to one having ordinary skill in the art at the time the invention was made to modify Blanquaert by including a threaded portion, and/or substitute the scaly structure with a threaded portion, in order to efficiently anchor and integrate into the bone. **As to claims 7, 16, and 18,** Blanquaert fails to disclose the bone stimulation substance comprises BMP (bone morphogenetic protein). Nonetheless, it is well known in the medical or dental bone prosthesis/implant field to coat the prosthesis/implant with osteoinductive factor such as growth factor or bone morphogenetic protein. For example, Sachdeva et al. discloses coating a dental implant with bone morphogenetic protein for osteoinductive purposes (column 7 lines 16-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Blanquaert by including bone morphogenetic protein as bone stimulation substance since it has been held since it has been held to be within the general skill of an artisan to select a known material on the basis of its suitability for the intended use. In re Leshin, 125 USPQ 416. **As to claim 20**, Blanquaert discloses the anatase layer having a thickness of 3000-3500 Angstroms (column 2 lines 51-53), which is converted to be 0.3 - 0.35 μm, which is within the claimed range of 0.05 – 10 μm.

Response to Arguments

6. Applicant's arguments filed 11/04/2010 have been fully considered but they are not persuasive. Applicant argued that Blanquaert discloses a pin, not a dental component as claimed. Note that the recitations "a dental component" (claim 1) and “a dental implant” (claim 2) both are very broad since there are no definite structures conveyed in the terminologies “a dental component” or "a dental implant”. Note that the recitation “A dental component/implant for extending at least partially in a hole formed in jaw bone and through soft tissue belong to the jaw bone” (claims 1 and 19) occurs in the preamble and is intended use. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process

or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, Blanquaert discloses a medical pin for insertion in the bone (abstract); said pin by itself and/or in combination with Sachdeva comprises the claimed structures of the invention as detailed in the aboveground(s) of rejections. The examiner maintains that Blanquaert's pin is certainly capable of being used as "a dental component" or "a dental implant" and capable of "extending at least partially in a hole formed in jaw bone and through soft tissue belong to the jaw bone" as claimed.

7. Applicant's arguments citing Blanquaert's pin is simply too large to be considered by one of skilled in the art as a dental component are also not persuasive since there is no dimension(s) being positively claimed to the dental component nor is there any conventional dimensions for a dental component or dental implant. Note that the claims are interpreted as broadly as their terms reasonably allow. Therefore, even a construction pin or nail can reasonably be considered a dental component or implant capable of insertion into a large animal's jaw bone.

8. Applicant argued that Blanquaert does not inherently a layer of 70-100% anatase. The examiner maintains that Blanquaert discloses "a coating of titanium oxide obtained by anodic oxidation at 20 -200 volts, until a surface layer of anatase of 3000-35000 Angstrom is formed" (column 2 lines 44-59); therefore such coating of titanium oxide is inherently 70-100% anatase

phase titanium dioxide as claimed. Note that Blanquaert's range of 20-200 volts for the anodic oxidation overlaps with Applicant's disclosed range of 100-270 volts (Specification, page 3 lines 18-22); and Blanquaert's anatase layer has a thickness in the range of 0.3 - 0.35 μm, which is within or narrower than the Applicant's claimed thickness' range of 0.05 – 10 μm. Also note that Blanquaert discloses such anatase coating being advantageous over a rutile coating (column 2 lines 57-59), implicitly teaching away from overheating that would convert the anatase to rutile.

9. Applicant argued that Blanquaert does not provide any teaching or suggestion for how to apply techniques [of applying anatase coating] to a small component, such as dental component. Such arguments are irrelevant since there is neither technique nor method being claimed. Also see above responses regarding Applicant's arguments Blanquaert's pin being too large for a small dental component. It is maintained that there is no structural difference between Blanquaert's anatase layer and Applicant's anatase layer as claimed.

10. Applicant finally argued that Applicant's anatase layer is for promoting osseointegration while Blanquaert's is for a "long-lasting protective coating". The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Nonetheless, note that Blanquaert's pin is for insertion into the bone and therefore a coating to promote osseointegration would also have been desired.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAO D. MAI whose telephone number is (571)270-3002. The examiner can normally be reached on Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hao D Mai/
Examiner, Art Unit 3732

/Cris L. Rodriguez/
Supervisory Patent Examiner, Art Unit 3732